



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,671	03/29/2001	Masayuki Yamada	36409-00900	4229

7590 10/22/2003

Christopher E. Chalsen, Esq.
Milbank, Tweed, Hadley & McCloy LLP
1 Chase Manhattan Plaza
New York, NY 10005-1413

EXAMINER

TRAN, VINCENT V

ART UNIT	PAPER NUMBER
----------	--------------

2655

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,671

Applicant(s)

YAMADA, MASAYUKI

Examiner

vincent v tran

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 4-8 and 14-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowability:

Regarding claims 4 and 14, the Kosaka reference discloses the method or the apparatus, wherein the estimation step further comprises the determination step of determining whether each of the partial speech segments is a voiced or unvoiced sound (col.3, ln.16-22, col.16, ln.13-46) and

if it is determined that the partial speech segment is a voiced sound (vowel), a power value is estimated by using a parameter value for a voiced speech segment (col.5, ln.32-36).

This reference does not specifically teach nor fairly suggest a method or a apparatus wherein if the speech segment is an unvoiced sound (consonant), a power value is estimated by using a parameter value of an unvoiced speech segment.

Regarding claims 5-8 and 15-18, these claims would then be allowable, being dependent upon claims 4 and 14.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2655

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 9-13 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kosaka et al. (U.S. Patent No. 5,220,629).

Referring to claims 1 and 11, Kosaka et al. disclose a speech synthesizing method or a apparatus comprising:

the division step of acquiring partial speech segments by dividing a speech segment (col.9, ln.3-5) in a predetermined unit (VCV or CV, col.5, ln.18-19 and col.16, ln.66 – col.17, ln.7) with a phoneme boundary (vowel gap between speech segment, col.5, 5-7 and col.6, ln.61-63);

the estimation step of estimating a power value of each partial speech segment (standard power value, col.5, ln.34-37) obtained in the division step on the basis of a target power value (the power stored in parameter file, col.5, ln.18-19 and col.6, ln.8-9);

the changing step of changing the power value of each of the partial speech segments on the basis of the power value estimated in the estimation step (col.6, ln.6-36); and

the generating step of generating synthesized speech by using the partial speech segments changed in the changing step (col.6, ln.37-49).

Referring to claims 2 and 12, Kosaka et al. further disclose the method or the apparatus, wherein in the changing step, for each of the partial speech segments, a corresponding reference power value (average power value, col.8, ln.31-35) is acquired,

Art Unit: 2655

an amplitude change magnification is calculated on the basis of the power value estimated in the estimation step and the acquired reference power value, and

a change to the estimated power value is made by changing an amplitude of the partial speech segment in accordance with the calculated amplitude change magnification (it is inherent that to obtain target (reference) value one must change gain for power by the ratio (reference power/estimated power) or amplitude gain by square-root thereof).

Therefore, referring to claims 3 and 13, Kosaka et al. inherently disclose the method or the apparatus, wherein in the changing step, an amplitude value of the partial speech segment is inherently changed by using, as an amplitude change magnification, s being obtained by $s = \text{Square-Root}(p/q)$ where p is the power value estimated in the estimation step, and q is the acquired reference power value.

Referring to claims 9 and 19, Kosaka et al. further disclose the method or the apparatus, wherein the speech synthesis unit is CV/VC (col.16, ln.66-67).

Referring to claims 10 and 20, Kosaka et al. further disclose the method or the apparatus, wherein the speech synthesis unit is VCV (col.5, ln.18-19).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2655

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka et al.

Kosaka et al. do not explicitly disclose a storage medium storing a control program for making a computer implement the method defined above. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Kosaka et al. to have a storage medium storing the control program in order to avoid the need to modify the hardware when updating the system.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chihara et al. (U.S. Patent No. 6,499,014) teach a speech synthesis apparatus which produces synthesized speech that easy to hear, with fluctuation of the average pitch between sentences suppressed.

Katsumi et al. (European Patent Publication 1093111, published after US filing date) teach a method for synthesizing speech comprises the steps of : dividing the phonemes into a plurality of frames having a predetermined time length, summing squares of speech samples in one of the plurality of frames for each frame as a frame power value, standardizing frame power values at the head and tail frames in one phoneme to predetermined values, respectively, to obtain a frame power value of an n-th frame,

Art Unit: 2655

summing squares of signal level of a frame in the frequency signal obtain a frame power correction value, providing a speech envelope signal by mean of a function having variables of the standardizing frame power values and the frame power correction value, and adjusting an amplitude level of the speech waveform signal as a function of the speech envelope signal. Those are considered pertinent to the claimed invention.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner **Vincent V. Tran** whose E-mail address:

Vincent.tran@USPTO.GOV.

Phone number: (703) 305-1817

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached on (703) 305-4827. Any inquiry of a general nature or relating to the status of this application call receptionist at (703) 305 -3900.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

Or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Dr, Arlington VA, Sixth Floor (Receptionist, Tel. No. 703-305-4700).

Application/Control Number: 09/821,671

Page 6


Art Unit: 2655

Art Unit 2655

VINCENT V. TRAN

A stylized handwritten signature in black ink, consisting of a large loop followed by a horizontal line.

Date: October 9, 2003

A handwritten signature in black ink, featuring a long horizontal line and a large, stylized 'S'.

TĀLIVALDIS IVARS ŠMITS
PRIMARY EXAMINER